DOCUMENT RESUME

ED 029 970 08 VT 008 438

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Research Visibility: Preparation of Professional Personnel for Vocational Education.
Spons Agency-American Vocational Association, Washington, D.C.; Office of Education (DHEW), Washington, D.C.
Bureau No-BR-7-0633
Pub Date Apr 69
Grant-OEG-2-7-070633
Note-16p.
Journal Cit-Amer Vocat J; v44 n4 p33 Apr 1969
EDRS Price MF-$0.25 HC-$0.90
Descriptors-•Bibliographies, •Educational Research, •Leadership Training, Research Reviews (Publications), Staff Improvement, State Departments of Education, Teacher Certification, •Teacher Education, Teacher Supply and Demand, •Vocational Education

Sixteen reviews in this issue pertain to the preparation of professional personnel for vocational education. Topics under "Seminars and Workshops" include implementing the project method in distributive education, an off-farm agriculture workshop, innovative technical teacher education programs, a national vocational teacher education seminar, and vocational teacher education in small colleges. "Leadership Training" reviews training institutes conducted for technical and agricultural education. "Teacher Education" reports cover trade and industrial teacher education and certification, a proposed design for professional teacher education, the demand and selected sources for vocational teachers, and enlisted men as a potential source of vocational teachers. "Other Studies" concerns policies, practices and requirements of vocational state department personnel; trade and technical leaders in California; staffing; and the competencies of vocational plant facilities specialists. "Plain Talk," a continuing column by the author, makes a plea for coordinated efforts in research dissemination and a time reduction between federal authorization and actual appropriations. A bibliography lists 35 related publications. (EM)

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RESEARCH VISIBILITY

Synthesis / Application / Dissemination

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Preparation of Professional Personnel for Vocational Education

VOCATIONAL EDUCATION is professional planning and achievement . . . The reports in this issue of *Research Visibility* are partial evidence from a great bulk of literature which describes numerous activities in research and development as they are related to the preparation of professional personnel in vocational and technical education. The overall bulk of the evidence goes a long way toward dispelling the commentary which has existed over the years (and is still present) that the vocational education "establishment" is professionally out of touch to an extent that it is obsolete. Admittedly, public vocational and technical education is everyone's business. The professional and technical expertise of its administration, instruction, preparation, and conduct of other professional areas of activity, however, have definite limitations for the nonprofessional and his interest and involvement.

The hand and influence of sophisticated research design and activity make up a small portion of this report. Notwithstanding this deficiency, the high involvement and communication of researchers, teacher-educators and other professionals in many seminars, institutes and conferences concerned with the preparation of professional personnel (and the research about it) are a powerful prelude to a greatly improved and expanded program of vocational and technical education for the citizens of the country.

The innovative in teacher education programs is sparked by Klaurens: Hensel reports two efforts in the teacher supply-demand situation. Some attention to the preparation of an educational specialist in facilities is reported by Peterman. Reese has assembled an extensive report which treats the topics of teacher certification and the construction of a paradigm for research for the education of teachers in trade and industrial education.

The reporting of other activity is as stimulating and encouraging as it is diverse: Haines and the project plan of instruction in distributive education; Hull and Rogers and agricultural education which are (a) related to occupational experience (distribution), and (b) teacher education in connection with the young farmer program; the professional internship as seen by a working conference and Stern; the identification of alternative approaches to the improvement of teacher education which grew out of a seminar of 300 participants including Reporters Vivian and Hoffman; Bell's account of critical issues in vocational and technical teacher education, especially those which are related to the role and future of small colleges and universities; Aaron Miller's report of the special consideration and emphasis related to leadership requirements of newly appointed administrators of technical education programs; the two-point purposes of design and analysis of a program of the

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EDITOR'S NOTE

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Anne Ware.

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American Association of Colleges for Teacher Education, as described by LaGrone, which suggest a way of reconstituting the objectives of teacher education and show the role of media in increasing its effectiveness; and Barlow and Reinhart's description of their work as they analyzed trade and technical leadership activities, the leadership's perception of major issues and influential factors and the ways in which professional advancement is attained.

There is also a review of Rice's report of personnel policies, practices and requirements of state divisions of vocational education and their staffing requirements through 1970.

The University of Wisconsin's Harland E. Samson decries the small amount of study and research which has been devoted to the improvement and development of the science of teacher education. In the chapter "Staffing" of *Review of Educational Research*, October 1968, he asserts that the current research is "descriptive" rather than being able to account for various concerns about staffing. There is a brief resume of his analysis in this issue of *RV*.

The common denominator of the effectiveness of vocational and technical education rests with the quality of teaching in direct instruction. Consequently, there is no topic of greater importance to vocational education and to its recipients, than that of the education of its teachers. This fact is as true of vocational education for the disadvantaged as it is of vocational education for the gifted. No doubt, this is one factor among many which makes it professional—*critically professional*—in the lives of many millions of Americans today.

TOPIC ONE: Seminars and Workshops

See Bibliography for information on availability of complete studies

Guidelines for Implementing the Project Plan of Instruction in Distributive Education Through Teacher Education. Project Report No. 6. Peter G. Haines. Michigan State University, East Lansing. Department of Secondary Education and Curriculum, College of Education. April 1968.

This task force on the implications for teacher education in the use of the project methods in distributive education is the result of the National Seminar in Distributive Education which was held in May 1967. This document is designed for use in seminars, courses, conferences, workshops, and in-service meetings, and it may be reproduced in part or in whole without permission from the author.

Five major topics were each assigned to two separate task forces; the task force reports are presented in the form of a brief summary, followed by a discussion of key points, implications for development, and references.

Task Force No. One commented on five key points which a successful teacher education program should consider: "(a) the project laboratory teacher needs preservice and inservice professional education and experiences in a broad spectrum; (b) specific educational preparation within the framework of the marketing discipline is critical requirement for the project laboratory teacher; (c) general education is a component of the competencies and experiences needed by project training teachers; (d) practical distributive occupational experience is a necessity for the project laboratory teacher, and (e) personal qualities necessary for successful teaching in any educational endeavor are especially important in the project laboratory teacher of distributive education."

Task Force No. Two identified 13 major competencies which are needed by successful project training teachers. They are:

1. Ability to design and produce effective curricula for project training programs.
2. Skill in using methods and techniques of instruction particularly applicable in project training situaions.
3. Necessary communication skills for effective involvement with students, administrators, faculty and the business community.
4. An understanding of the terminology which is necessary for carrying out the objectives of the project plan.
5. Ability to construct follow-up studies to determine success of project instruction.
6. Ability to counsel students regarding the ease with which they may enter into the cooperative plan.
7. An understanding of ways of coordinating classroom learnings with out-of-class learning activities designed to accomplish stated objectives.
8. Ability to work cooperatively with the principal in designing the organizational pattern best suited to the needs of the local high school.
9. Ability to design and equip a laboratory for the preparation of non-cooperative students.
10. Broader and deeper occupational understandings and experiences.
11. An understanding of the philosophical foundation underlying the project plan.
12. Ability to maintain good public relations with other teachers, administration, employer and community.
13. Ability to plan, direct and evaluate various participating experiences which focus on activities of distributive occupations and decision-making situations in distribution.

The implication derived by Task Force No. Two is that, "Every facet of the distributive teacher education program should be re-examined to be certain that the curriculum reflects the changing concepts in distributive education and that adequate staff and facilities are provided."

The other four topics studied by task forces were inservice teacher education, experiences provided for the teacher trainees, ancillary services, research and materials development, and resources that are needed by the teacher education institution.

(Editor's note: See Bibliography section for another task force report from this seminar, Guidelines for Implementing the Project Plan for Instruction in Distributive Education in the Schools.)

Developing Occupational Experience Programs in Agricultural Distribution: Report of a Teacher Education Institute on Agricultural Occupations. William L. Hull and others. The Research Foundation, Oklahoma State University, Stillwater. October 1967.

"The Vocational Education Act of 1963 makes it possible for vocational training in agriculture to be provided for all types of agricultural occupations, both on and off the farm. Supervised training can now be provided in off-farm agricultural occupations as well as in supervised farming programs. One of the greatest difficulties in developing such programs is that the teachers are not qualified for them. Teachers feel inadequate and hesitate to try new types of training programs."

This project was conceived to encourage the adoption of off-farm agricultural occupations program objectives. Two six-week workshops were proposed for vocational agriculture teachers to be instructed by distributive education teacher-coordinators. The objectives of this institute were to: (a) upgrade teachers of vocational agriculture in the distributive phases of vocational education, (b) acquaint teachers of vocational agriculture with methods of conducting supervised training in agricultural business, (c) help rural area high schools to have vocational teachers qualified to conduct broader vocational programs in distributive education, and (d) adapt existing teaching materials in distributive education to meet the needs of training programs in off-farm agricultural occupations.

The participants included 60 vocational agriculture teachers from 17 states. This publication contains the reports of the workshops, including lesson plans, references, ideas, etc., that would be useful in the classroom. Despite the various difficulties, the participants were able to later integrate agricultural distribution units into their regular course instruction.

Two major recommendations were made, based on observations made at the workshops, to further encourage these program objectives. They were as follows:

1. Guidelines should be developed to identify teacher characteristics or situational variables in school systems which enhance the adoption of educational innovations. This development would enable teacher education institute participants to be selected from school systems which are most likely to implement the outcomes of the institute.

2. Instructional materials which simulate business sales and service employee experiences should be developed for classroom use in small rural high schools located in communities with limited potential training stations. Such materials would help prepare students for post-high school occupations in more urban environments.

Professional Internship in Vocational-Technical Education. Summary of a Working Conference. Jacob Stern and others. Michigan State University, East Lansing. Department of Secondary Education and Curriculum, Research and Development Program. 1967.

A working conference of persons experienced in operation of internship programs was called in East Lansing in November, 1966 to identify factors of successful internship teacher preparation programs. This document summarizes the results of the conference.

The Professional Internship Project was designed to utilize the internship approach to prepare teachers in vocational-technical education. Stern described the purpose of the project as devising "an alternative route to becoming a professional teacher appropriate to persons who possess specialized competence needed in vocational-technical education at secondary and post-secondary levels."

The project specifies a program of professional preparation which utilizes the existing technical competence of the individual, leading to a baccalaureate degree and full professional status in education. This internship approach offers economic benefits to the university; for example, since these individuals generally possess the technical competencies, the cost of training facilities is avoided.

In successfully recruiting and selecting candidates, Stern considered the following factors:

1. Educational background: (a) level of sophistication; (b) level of achievement; (c) kinds of education experiences, and (d) appropriateness to the area to be taught.

2. Occupational background: (a) appropriateness to the area to be taught; (b) scope with respect to the breadth and depth required; (c) level of sophistication and involvement required; (d) recency of experience; (e) length of experience; (f) achievements and success attained, and (g) evidence of individual adaptability to occupational setting.

It was noted that candidates may have shortcomings that will need special attention. In this connection, Stern stated that the baccalaureate degree requirements should be sufficiently flexible to accommodate the candidates desired for the program, taking into consideration their qualifications at the time of entry into the program.

This flexibility leads to sufficiently diverse curriculum areas to require an effective system of candidate advisement. It was suggested that each vocational education curriculum area in the College of Education appoint a regular staff member to act as vocational intern program adviser for those candidates majoring or specializing in his area.

Intern teacher candidates participate in a legally responsible, contractual, semi-autonomous, teaching assignment which will last for a portion of the teaching day. School systems forming the "clinical site" should provide the opportunity for the intern teachers to teach classes in which their technical competence is appropriate; the school facilities should be easily accessible, and practicing professionals in the schools should be available to assist the interns. Ideally, the intern with responsibility for class meetings in the morning would then be free for seminars, classes and related professional study for the rest of the day.

According to Stern, "The progress of the intern in the curriculum is best evidenced by the decisions he makes relative to his teaching and the extent that the decisions reflect the assimilation of the theory. . . . It is expected that a greater breadth and depth of understanding will be established during the actual internship. It is possible that an internship for graduate students from the discipline areas concerned might be established as a means of further-

ing the depth of involvement in such discipline areas for the intern teachers."

Stern presented the following six items to be considered when evaluating this program:

1. The kinds of persons attracted to the program with respect to their background and personal characteristics.
2. The staying power exerted by the program in terms of the numbers starting, the numbers finishing and the differences which can be noted regarding the two groups.
3. What happens to the graduates of the program on a short- and long-term basis.
4. The general effectiveness of graduates of the program when compared to beginning and experienced teachers prepared by traditional programs.
5. The acceptability of the product to the employing institutions.
6. A system of feedback from all relevent groups affected by the program which will serve to assist in continually refining the programming.

Developing Innovative Vocational Technical Teacher Education Programs. Final Report of an Upper Midwest Vocational Teacher Education Conference, May 13-15, 1968, Minneapolis. Mary Klaurens. The Minnesota Research Coordination Unit in Occupational Education, University of Minnesota, Minneapolis. 1968.

"The development of effective teacher education programs is crucial to the achievement of the goals envisioned by government, professional educators and the general public." The Upper Midwest Regional Educational Laboratory and the Minnesota Research Coordination Unit for Research and Development in Occupational Education advocate this fact and cooperated in sponsoring this conference to encourage planning and development of improved teacher education programs in the Upper Midwest Region, and to explore the feasibility of further cooperative activities in the Region.

Participants in the conference included vocational teacher educators, research and development personnel, state department vocational staff members, and vocational school directors. Presentations were made by the following leaders in the field of teacher education:

"Vocational Education in the Years Ahead and the Preparation of Teachers," David Allen, University of California, Los Angeles, Calif.

"The Pilot School Program and Implications for Vocational Teacher Education: The Future is Obsolete," L. V. Rasmussen, Duluth Public Schools', Duluth, Minn.

"The Preparation of Educational Manpower—A Performance Curriculum," Raymond Johnson, Stanford University, Palo Alto, Calif.

"Teacher Education for the American Industry Project," by Lorry K. Sedgwick, Stout State University, Menomonie, Wisc.

"The Relevance-Quest Curriculum," Robert R. Randleman, University of Minnesota, Minneapolis, Minn.

"Cooperative Occupational Pre-teaching Experience Program," by Albert J. Pautler, Rutgers—The State University, New Brunswick, N. J.

"Using the Clinical School Concept as the Core of Teacher Preparation and Development of Professional Personnel," by Peter G. Haines, Michigan State University, East Lansing, Mich.

"Educational Professions Development Act," by Robert Poppendick, Bureau of Educational Personnel Development, U.S. Office of Education, Washington, D. C.

An evaluation of the conference by Merle E. Strong, director, Program Services Branch, Division of Vocational & Technical Education, U.S. Office of Education, Washington, D. C., is included. The participants had assessed the conference themselves, and they agreed that the objective of stimulating them to assess their own programs and give consideration to possible improvement was achieved.

In their assessments, the participants indicated 50 specific ideas which they believed to be important, nine of which were given by two or more people:

1. Directed occupational experience.
2. Flexible, individually oriented, teacher education programs and flexible certification.
3. Clinical school, internship programs.
4. Preparation of teachers for disadvantaged youth.
5. Local school, state department, institution cooperation.
6. Early and continued exposure of teacher candidates to learning situations.
7. Personal development of individual teacher candidates.
8. Stipends to encourage personnel development.
9. Individual study programs and learner centered instruction.

Four recommendations resulted from this conference:

1. Future regional conferences should be considered as a way of getting state department, local schools, research units, and teacher education institutions together for cooperation on projects of common concern.
2. New developments in education in general, in teaching and learning ideas, and in federal legislation to facilitate program development should be communicated to those responsible for vocational teacher preparation.
3. Conferences which depend on representation from several states and a number of agencies within the states should be scheduled at times when adequate numbers may attend. A survey of participation interest would indicate feasibility of planning a conference for a particular time.
4. Personnel from the U.S. Office of Education should be invited to participate in the conferences because of their insight into the development of programs across the country, and their knowledge of issues and trends."

Vocational-Technical Teacher Education: National Seminar Proceedings Held Sept. 24-29, 1967. Neal E. Vivian and Kenneth E. Hoffman, The Center for Vocational and Technical Education, The Ohio State University, Columbus. February 1968. 291 pages.

There were 303 participants in this seminar in Chicago, the purpose of which was to "identify alternative approaches for improving programs in the preparation and upgrading of vocational teachers. This document contains

all the major speeches that were delivered by national leaders and recognized experts in education and other fields, and the reactions to them by the vocational-technical teacher educator audience.

All areas and all levels of vocational-technical education were considered, with experts in vocational education, teacher education and the behavioral sciences among the participants. Each major topic was treated by the presentation of a paper by a recognized leader and the reactions to it by the vocational educators and other specialists. The major topics were the projected demand for vocational-technical teachers, emerging approaches to professional education of teachers, innovative approaches in providing occupational experiences for teachers, recent developments in providing major field content, and the contributions of the behavioral sciences to vocational teacher education.

The participants also gathered in small groups to further discuss the topics and their implications by educational level and vocational service.

Robert E. Taylor, director of The Center for Vocational and Technical Education, welcomed the participants with a statement of the purposes and objectives of the seminar. He presented three goals for the participants: (a) analyze the results of recent research, experimental programs and new developments in education and behavioral sciences; (b) investigate their implications for vocational-technical teacher education, and (c) explore the most viable, innovative and promising approaches in the preparation of vocational-technical teachers.

Grant Venn, associate commissioner, Bureau of Adult, Vocational and Library Programs, U.S. Office of Education, presented a telelecture from Washington, D. C. He discussed in detail seven major factors which he feels demand immediate attention. They are: (a) growth of our society; (b) the wide range of individuals now being served by vocational education; (c) the updating of present staff now working and teaching in schools; (d) the new developments in teaching technology and methods; (e) the new occupations that demand skill training; (f) the need for giving an occupational orientation to all students, and (g) teaching the disadvantaged.

Melvin L. Barlow, Advisory Council on Vocational Education, discussed the vital importance of teacher education to the expansion of vocational education. Harold F. Clark, chairman, Department of Economics, Trinity University, San Antonio, Texas, discussed the economics of learning to work, emphasizing the importance of programmed learning. Alice Widener, publisher of *U.S.A. Magazine,* discussed the role and status of vocational-technical education, pointing out the necessity for raising the image of non-bacculaureate-trained employees.

A major topic paper was presented by Laurence D. Haskew, professor of educational administration, University of Texas, "Emerging Approaches in the Professional Education of Vocational-Technical Teachers." Discussion of the topic by service groups followed.

A similar presentation-discussion format was followed as attention was given to the following major topics:

"Contributions of the Behavioral Sciences to Teacher Education."

"Recent Developments in Providing Major Field Content Education."

"An Approach to Providing Vocational Teachers With Experience in the Occupations They Teach."

Special interest group sessions were then held for the participants to discuss the relevance to teachers in high school, post-high school, adult, special needs, and leadership development environments.

Institute on Critical Issues in Vocational and Technical Teacher Education in Small Colleges and Universities. A. P. Bell. North Carolina State University, Raleigh. Center for Occupational Education. 1967.

A statement by John K. Coster, director of the Center for Occupational Education, North Carolina State University at Raleigh, indicates the nature and importance of the institute, "The small colleges and universities have a vital and significant role in the preparation of teachers in the decades ahead. They may not command the physical and material resources of the larger universities, but for many teacher education is their main business. They may be in a more favorable position to experiment and innovate. Indeed, lack of financial resources may force them to examine more closely existing patterns and to devise ways by which existing resources may be reallocated."

The institute had four major objectives:

1. To determine changes in teacher education programs that should be made to take advantage of technological changes and to meet occupational requirements.

2. To generate a meaningful dialogue between national and/or regional leaders in vocational-technical education and teacher educators on current issues and policies affecting vocational education.

3. To determine how resources can be utilized most effectively in teacher education programs, and to encourage the development of an association of small colleges and universities to do this.

4. To encourage the discussion of common problems related to vocational education among institutions of comparable size and resources, and provide the opportunity to consider these problems and work toward their resolution.

Eleven topics were presented by special consultants and were then followed by seminar discussions and seminar reports. The participants included teacher educators and administrators in agricultural education, business education, home economics education, and trades and industrial education in small colleges and universities.

The participants reached 35 tentative conclusions, selected ones of which are:

1. The small colleges should recognize that they are an important source of personnel for occupational education, perhaps the most important source.

2. The forces engaged in occupational education in each small college should be marshalled to determine the mission of the institution in that field, to study the current program, and to suggest needed changes.

3. The current policy for occupational education in each institution should be codified, made available to those affected by it, and reviewed and supplemented by those responsible for it.

4. Small colleges should prize their autonomy, recognize the responsibility for independent action which accompanies it, and avoid becoming unduly dependent upon programs and authority imposed from outside upon them.

5. All of the useful resources of an institution should be employed in strengthening occupational education including the contributions of sociology, economics, political science, and psychology.

6. Resources outside the academic community should be used to vitalize college programs and improve a college's articulation with its environment. Resources available to occupational educators include those of business, industry and employment.

7. Consulting (advisory) committees of lay citizens, authorized by the trustees or the central administration and set up under carefully designed policies, may well be used in planning and revising institutional policies and programs for occupational education.

8. Individual consultants from many sources may be useful in redesigning institutional policies and programs in occupational education.

9. Contacts should be maintained with state, regional and national agencies involved in occupational education to secure from them the information needed in planning institutional programs and the funds that may be used appropriately in developing programs.

The remaining conclusions deal with such varied areas as funding programs, relationships with larger institutions, research and development activities, cost-benefit studies, curriculum planning, and evaluation.

TOPIC TWO: Leadership Training

See Bibliography for information on availability of complete studies

National Program Development Institutes in Technical Education. Final Report. Aaron J. Miller et. al. The Ohio State University, Columbus. The Center for Vocational and Technical Education. February 1968.

The purpose of this project was to improve the understanding of technical education and how the leadership role relates to program planning, implementation, evaluation, and leadership training activities at state and local levels through inservice training programs. The project was specifically directed toward newly appointed administrators of technician training programs, those with administrative responsibility for vocational areas relating to technical education, and experienced state supervisory staff that is responsible for administration of technical education programs or for training technical teachers.

The specific objectives of the project were to: (a) provide a vehicle for the development of present and prospective leaders; (b) provide leadership personnel at the state level with an increased understanding of their administrative roles, and (c) provide an inservice training program to serve as a model for similar programs at state and local levels.

The National Program Development Institutes in Technical Education were conducted in the summer of 1967; they were a consortium of The University of California at Los Angeles, The University of Connecticut, Mississippi State University, Utah State University, and The Center for Vocational and Technical Education, The Ohio State University. The Center for Vocational and Technical Education consolidated the coordination, funding, staff preparation, consultants, instructional materials, participants, evaluation, and reporting aspects of the institutes.

The General Leadership Development Institutes were conducted at Mississippi State University July 10-21, 1967, and at Utah State University, July 17-28, 1967.

The following major topics were included in the program:

—The Leadership Role and Change
—The Rationale and Need for Technical Education
—Description of the Technical Education Student
—Administrative Structure of Technical Education
—Program Patterns and Curriculum Development
—Facilities and Equipment for Technical Education
—Staffing Technical Education Programs
—Financing Technical Education
—Supervision and Inservice Teacher Education
—Establishing Research and Development Needs.

The State Staff Development Institutes were held at the University of California, Los Angeles, July 17-28, 1967, and at the University of Connecticut, July 24-August 4, 1967. Topics discussed at this program are:

—Leadership—The Role and Responsibility
—Current Practices and Trends in Technical Education
—Technician Need Surveys
—State and Local Resources for Program Support
—Coordinating Technician Training with other Vocational Areas
—Publicizing New Technical Programs
—Intermediate and Long-Range Program Planning
—Staffing for Supervisory Positions
—Evaluating Technical Education Programs, Staff and Facilities
—Reporting Systems and Data Handling
—Research Responsibility.

Information gathered from participant application forms and six specifically prepared instruments was used by The Center for Vocational and Technical Education to evaluate the institutes. The Project Evaluation Committee compiled and distributed materials to the participants for their use in conducting future state and locally sponsored leadership

development institutes. The following paragraphs summarize the findings of the Project Evaluation Committee:

Participant's gain in knowledge. The average participant in the State Staff Institutes had a gain score of 11.42 on a 25 item self-appraisal instrument administered as a pre-test and post-test, and an average percentage gain of 15.22 percent.

The average participant in the General Institutes had a gain score of 46.45 on a 50 item self-appraisal instrument administered as a pre-test and post-test and an average percentage gain of 33.81 percent.

Participant's present and planned activities. The average institute participant (both General and State Staff Institutes) had an average absolute change score on a 5-point scale for each of 25 items of 1.10. Any change from present to planned program activities was assumed to be positive. The average participant's percentage of gain, by institute, from their present to planned activities score ranged from a low of 34.98 to a high of 42.23 percent.

Participant's evaluation of institute presentations. The average participant's evaluation on six aspects of institute presentations was 23.31 (6 = poor and 30 = excellent).

It was concluded that the consortium approach was successful and that most of the participants, who represented a wide geographical and service area mix, experienced a commendable gain in knowledge. There was evidence that some participants anticipated implementing positive program changes as a direct result of having attended an institute.

Miller notes that the experiences of this training project indicate certain improvements, such as (a) the determination of how to identify and attract greater numbers of qualified applicants; (b) a refinement of the method of evaluating institute presentations, and (c) scheduling future institutes to avoid conflict with other professional activities.

The following recommendations were offered regarding the nature and need for future training projects in technical education:

- National Program Development Institutes should be continued in 1968 based on the success of the 1967 institutes and the expanded need for leaders in technical education.
- The consortium approach to planning and conducting national institutes for program development should be continued.
- Leadership and program development training in technical education, supported by federal funds and national advisory services, should be continued.
- The geographical location of future institutes should provide optimum transportation accessibility.
- Participants should be reimbursed for travel and subsistence.
- Attempts should be made to employ outstanding consultants for longer periods of time to provide for better coordination and to insure greater in-depth treatment of institute topics.
- The institute program should be planned and organized around fewer topics so that the most critical needs of participants can be explored in depth.
- Overhead money should be provided to the sponsoring institutions to encourage greater participation by leading centers of learning currently hampered by the present regulations.

A Training Institute for Administrative Personnel and Teacher Educators Responsible for Young Farmer Education. Final Report. John H. Rogers. Virginia Polytechnic Institute, Blacksburg, Va. June 1968.

A National Seminar on Young Farmer Education was held at Virginia Polytechnic Institute from Aug. 7-11, 1967. There were 95 participants and contributors, representing 38 states and the District of Columbia. The purpose of the seminar was to "assess the importance of young farmer education and to formulate guidelines for expanding existing programs and developing new programs as warranted."

VPI staff personnel in agricultural education formed a committee which developed a seminar program and suggested qualified participants for program assignments. Outstanding leaders in agricultural education were also queried as to their suggestions for participants who would contribute to the seminar.

The seminar participants felt that the program was successful, that the objectives of the project were largely accomplished. Methods for strengthening young farmer education received a great deal of attention and emphasis was placed on the importance of the cognitive, pyschomotor and affective domains in formulating objectives.

Concerning evaluation, it was suggested that more attention be given accomplishments of young farmer organizations and personal and group achievement. The general feeling was that evaluative efforts have not been satisfactory and that criteria have lacked uniformity and interpretation. The need is felt for realistic criteria which are based upon educational outcomes.

Examples of the ideas advanced for strengthening preservice education of teachers of agriculture were:

—A philosophy and attitude must be developed with students concerning the importance of young farmer education and the desire to become an efficient teacher of such a group.

—Undergraduate students must have an opportunity to observe successful young farmer instruction and programs.

—Prospective instructors need to know administrative policies and procedures and be able to use advisory committees effectively in conducting programs of young farmer education.

Suggestions for inservice activities for program growth in young farmer education included: (a) the initiation and conduct of pilot programs; (b) providing credit courses and noncredit workshops for teachers engaged in young farmer education, and (c) preparation of effective professional and technical instructional materials.

The Seminar was conducted on a committee format; the various committees reported out some interesting items:

—Some auto-tutorial and other aids which should receive attention as a means of making instruction more effective include video tape, closed circuit TV, programmed material, computerized instruction, telephone teaching, and simulated experiences.

—Areas of instruction in which materials designed for self-instruction might be effective are agricultural mechanics, farm credit, wills and insurance, and some facets of farm management.

—Long-range plans should be established in the states for the number of young farmer programs needed and for continued and successful recruitment of staff to make such plans possible.

Nine pertinent conclusions were reached by the participants, based on the presentations, deliberations and committee work of the seminar:

1. The need for a program of continuing education for young farmers is greater than ever today.

2. Recruitment of young men leaving high school and/or entering agricultural occupations is essential to program growth and enhances the economic and social development of those being recruited.

3. A functioning organizational structure greatly enhances the value of educational programs for young farmers.

4. One of the greatest deterrents to program development in young farmer education is the shortage of well-prepared teaching personnel.

5. There is a need for more cooperation among states on the preparation of educational materials to minimize duplication of effort.

6. Program effectiveness can be greatly improved through cooperation with other agricultural and community agencies interested in young farmer education.

7. Additional research is needed to gain knowledge about critical factors involved in young farmer education.

8. Well-designed pilot programs are badly needed to test new "systems" approaches and new technological devices employed in young farmer education.

9. Attention should be given to developing more realistic approaches to evaluating the effectiveness of young farmer educational programs.

TOPIC THREE: Teacher Education

See Bibliography for information on availability of complete studies

Trade and Industrial Teacher Education and Certification: Report of a National Invitational Research Development Seminar. Robert M. Reese. The Ohio State University, Columbus, Ohio, The Center for Vocational and Technical Education, and North Carolina State University, Raleigh, The Center for Occupational Education. November 1968.

This Seminar on Trade and Industrial Teacher Education and Certification was held at The Ohio State University, Oct. 9-11, 1967, and was sponsored jointly by The Center for Vocational and Technical Education; The Center for Occupational Education, North Carolina State Unversity; and the American Vocational Association Trade and Industrial Research Committee.

Reese served as chairman. The seminar planning committee consisted of Carl Schaefer, Rutgers—The State University; Durwin Hanson, North Carolina State University; Ralph Wenrich, University of Michigan; Calvin J. Cotrell, The Ohio State University, and Charles Rogers, North Carolina State University. The other participants in this invitational seminar were Dave Allen, University of California at Los Angeles; George L. Brandon, Pennsylvania State University; Justice Cheeney, State University College, Oswego, N. Y.; Harry Davis, Trade and Industrial Education, Ohio; Bernard Fagan, University of Kentucky; Trevor Howe, Iowa State University; John Ingram, Department of Education, Alabama; Jerome Moss, University of Minnesota; Robert Tomlinson, University of Illinois, and Frank Wimer, State Board for Vocational Education, Washington.

The intent of the participants was to "review relevant research completed, to identify and list critical research problems, and to prepare mini-proposals for high priority studies." Brandon provided a review of the research in trade and industrial teacher education since 1963, noting that much of it was conducted by degree candidates and that despite increases in federal spending, "little improved sophistication was found in research directed specifically toward trade and industrial teacher education . . . . In only a few cases were attempts made to link a teacher's development and his eventual teaching performance."

Fagan presented information on the basic certification requirements for vocational day-trade teachers in the U.S. Of the 46 states responding to his request for information, each had a program of teacher education for trade and industrial teachers. However, the type of program varied from those states providing minimum teacher education without college credit to those offering multiple programs. With regard to preparatory training of teachers, Fagan found that 36 of the states were hiring occupationally competent persons who had no professional teacher education. In addition, the period of time that the initial teaching certificate was valid varied from state to state, as did renewal procedures.

The participants then discussed and identified problems in trade and industrial teacher education and certification that need research. Out of 51 problems identified, the seminar selected 4 on which to concentrate during the seminar.

Mini-proposals were developed for these research areas and are presented in the appendix to this document. The four areas are:

—A model for the measurement of occupational competency.

—The relationship of occupational competency to student achievement.

—What might be the most desirable preservice experience for new teachers.

—What professional competencies are needed for successful teaching.

The major conclusions of this seminar were that (a) there is a large number of research problems in trade and industrial teacher education and certification; (b) there is a need to develop a model for research on these problems; (c) researchers should be involved in future meetings who are ready to go to work on particular research problems; (d) researchers from the other service areas can be helpful to research planning in trade and industrial education, and (e) teacher competency examinations need further development and improvement, or a suitable substitute must be developed.

Professional Teacher Education: A Programmed Design Developed by the AACTE Teacher Education and Media Project. Herbert F. LaGrone. The American Association of Colleges for Teacher Education. Washington, D.C. July 1968.

The two major purposes of this project were to (a) suggest a way of reconstituting the objectives and programs of teacher education, and (b) show how media can be used to heighten the effectiveness of the programs.

The current literature and its implications for teacher education are discussed in terms of behavior and behavior change, educational objectives, the nature of subject matter, teaching media, and teaching processes.

Five areas were identified in which to organize material related to learning. Discussed in detail in terms of developing a curriculum to be utilized in the preparation of teachers, they are: (a) Analytical Study of Teaching; (b) Structures and Uses of Knowledge; (c) Concepts of Human Development and Learning; (d) Designs for Teaching-Learning, and (e) Demonstration and Evaluation of Teaching Competencies.

Each area is discussed in detail. For example, the first area—Analytical Study of Teaching—is introduced by the following statement: "The analytical approach through concrete material is designed to increase the ability of the prospective teacher to identify and relate the variables involved in teaching. The systematic study of the teaching process and the environment for teaching provides a substantive basis for concept formation."

This area is subdivided into sections as "A Concept of Teaching," "Paradigms, Models, or Schema for Teaching," "Concepts from Research in Teaching," and "Improving Teachers' Classroom Behavior." Each section is prefaced by sources in the literature which treat the ideas in even more detail.

A few of the uses noted for media in professional teacher education are concerned with extending human capacities, providing new content, interrelating existing content, and increasing learning potential.

This outline is presently being submitted to the field by AACTE for a critical review. The author notes that the suggested curriculum would entail certain problems: most current instructional materials would not be adequate, teacher educators would have to be reoriented, and the use of media would require increased demands for facilities and equipment. In conclusion, he asks two basic questions: Is this the time to seek a change? Does the proposed content outline offer, or could it be adapted, to give adequate direction?

The Demand for Teachers in Vocational and Technical Education. State Director Survey. James W. Hensel. The Ohio State University, Columbus. The Center for Vocational and Technical Education. January 1967.

This document contains the results of the first phase of a three-phased study of the teacher supply problem in vocational and technical education. State directors provided help in reporting the current situation and identifying the area which will need the greatest number of teachers in the future. The specific objectives of this phase were: "(a) to establish data concerning the current teacher situation in vocational education at the high school and post-high school level; (b) to estimate the demand for teachers in vocational and technical education for the next three years; and (c) to identify the areas in vocational education which will have the greatest need for new instructors in the future."

This study documents the magnitude of the need for teachers in vocational and technical education and predicts teacher need for 1968, 1969, 1970.

The study findings were reported by vocational service area and are briefly described below.

Agriculture. State directors estimated that the number of high school teachers of agricultural education would expand from 9,800 in 1965 to 10,320 in 1968, an increase of 5.3 percent. The number of post-high school agricultural education teachers was projected to expand from 351 in 1965 to 748 in 1968, an increase of 113 percent. The areas of Agricultural Mechanization, Horticulture and Off-Farm Agricultural Occupations were expected to have the greatest need for additional instructors.

Business and Office Education. The number of high school teachers of business and office education were projected to expand from 25,160 in 1965 to 32,196 in 1968, an increase of 28 percent. The number of post-high school teachers was expected to increase from 2,049 in 1965 to 2,807 in 1968, an increase of 37.0 percent. State directors also projected that the areas of Office-Clerical Practice, Data Processing and Stenographic-Secretarial would have the greatest need for additional teachers.

Distributive Education. State directors projected that the number of high school distributive education teachers would expand from 2,818 in 1965 to 4,205 in 1968, an increase of 49.2 percent. The number of post-high school teachers was projected to expand from 321 in 1965 to 557 in 1968, an increase of 73.5 percent. The areas of distributive education which will have the greatest need for new instructors in the future include high school cooperative programs, post-high school programs, and several areas of adult education.

Health Occupations. The number of teachers in the health occupations were expected to expand from 2,109 in 1965 to 2,957 in 1968, an increase of 40.2 percent. The instructional areas of Practical Nursing, Dental Assistants, and Medical Laboratory Assistants were projected as having the greatest demand for additional teachers.

Home Economics. State directors projected that the number of high school home economics teachers would expand from 20,856 in 1965 to 23,715 in 1968, an increase of 13.7 percent. The number of post-high school teachers was projected to expand from 1,095 in 1965 to 1,816 in 1968, an increase of 66.0 percent. State directors projected that the instructional areas of Food Services, Homemaking and Child Care and Development would have the greatest need for additional teachers.

Technical Education. Projections indicate that the number of technical education instructors would expand from 3,317 in 1965 to 4,633 in 1968, an increase of 39.7 percent. The instructional areas of Electronics, Data Processing and Mechanical Technology were expected to have the greatest need for additional teachers.

Trade and Industrial Education. State directors projected that the number of high school trade and industrial education teachers would expand from 10,680 in 1965 to 15,288 in 1968, an increase of 43.1 percent. The number of post-high school teachers was projected to expand from 7,705 in 1965 to 9,504 in 1968, an increase of 23.3 percent. State directors also projected that the Automotive Programs, including Auto Mechanics and Auto Body Repair, and the Metal Trades, including Machine Shop and Welding, would have the greatest future need for new instructors.

It was concluded that the reported shortage is, indeed, real. "The state directors predicted an increased demand for instructors in all of the vocational and technical areas by 1968. Both high school and post-high school programs are being expanded in all areas and teachers will be needed to fill the new positions."

(Editor's Note: See study below, "Enlisted Men Separating from the Military Service as a Potential Source of Teachers for Vocational and Technical Schools," for further research of this nature.)

Enlisted Men Separating From the Military Service as a Potential Source of Teachers for Vocational & Technical Schools. James W. Hensel, et. al. The Center for Vocational and Technical Education, The Ohio State University, Columbus. October 1967.

The specific objectives of this study to ascertain if the military services offer a potential source of teachers for vocational and technical education are described below.

1. To determine the percentage of enlisted men being separated from the military service who were interested in teaching as a future occupation.

2. To determine, for those interested in teaching: the age of the enlisted men being separated from the service, their educational background and occupational experience in relation to a vocational or technical subject area, their years of active duty and military rank, their vocational and technical course work background, the length of additional training they would be willing to take in order to qualify for teaching, the students they prefer to teach, and their willingness to move to a different part of the nation to accept employment.

3. To identify, from the number of respondents who had expressed an interest in teaching, enlisted men who possessed both educational and occupational qualifications to be considered as outstanding teacher prospects in vocational and technical schools.

Three military bases which are considered by military officials as typical separation centers were surveyed in this study. They were the U.S. Army Transfer Station, Fort Hamilton, N.Y.; U.S. Naval Station, Treasure Island, Calif. and McGuire Air Force Base, N.J.

As part of their separation procedure, 1, 152 enlisted men were administered a questionnaire to gather necessary information about them as to their interest in teaching educational background, occupational experiences, personal data, and other related information. Questionnaires from respondents who indicated a positive interest in teaching were further analyzed in terms of the characteristics described above under Objective No. 2.

In identifying those respondents who might be outstanding teacher prospects and the vocational or technical area they were best qualified to teach, the respondents had to meet the following three criteria:

1. Must have expressed an interest in teaching.

2. Must have one or more years of occupational experience within one area.

3. Must have taken one or more specialized courses within one subject area.

Hensel points our four limitations of this study: (a) he had no direct control over the manner in which the questionnaires were administered since they were administered at each location by military personnel; (b) only enlisted men who were separating from military service were questioned (retiring enlisted men were not included in the study); (c) the Army, Navy and Air Force were sampled, but the Marines, Coast Guard and Special Forces were not; and (d) no distinction was made between technical and trade level course work taken or occupational experience.

Of the 1,152 men completing the questionnaire, approximately 27 percent said they were interested in teaching as a future occupation. Broken down between the services, 24 percent of those separating from the Navy, over 25 percent of those separating from the Army, and almost 34 percent of those separating from the Air Force were interested in teaching.

In regard to the age category, it was found that those who were from 21 to 22 years old would be the best source of teachers. This age group seemed to be more interested in teaching and they were young enough to have the time to obtain the education needed to meet state certification requirements. Those enlisted men who had 13 or more years of education prior to entering the Armed Services expressed the greatest interest in teaching. Hensel feels they should be strongly considered in any search for teachers.

The study discloses a positive relationship between the military rate (rank) of the enlisted men and their interest in teaching. "The percentage of men interested in teaching increased consistently as the rate increased," and thus Hensel feels that any effort to locate prospective teachers would be facilitated by examining the higher enlisted ratings.

More than half the respondents interested in teaching had some occupational experience in the technical, trade and industrial area; 42 percent had completed course work in some phase of technical, trade and industrial education. Hensel says that this data suggests that the military could be an excellent source of potential teachers, especially in the electrical trades, mechanical service and hand trades.

More than half the men indicated they would teach at any level; 53 percent of them indicated their willingness to move to another state to teach. Almost 82 percent of the respondents interested in teaching expressed a willingness to take one or more years of additional training to qualify as teachers of vocational and technical subjects.

Nine percent of the 1,152, or 104 men, were considered by Hensel as outstanding teacher prospects for vocational and technical areas. They had indicated an interest in teaching and had the educational and experience background that would qualify them.

Based on the findings of this study, Hensel suggests areas where there is a need for additional research:

1. An effort should be made to obtain from the Army, Navy and Air Force the approximate number of men that separate from their services during a 12-month period. This would then provide for an estimate of the total number of

men that would be interested in teaching, the number of outstanding teacher prospects available, and the area in which the outstanding teacher prospects are best qualified to teach.

2. A system, compatible with present military classification structure, should be developed to locate and provide counseling or guidance services to enlisted men separating from the military who have an interest in teaching and possess the qualifications needed as future teachers in a vocational or technical subject area. This service should provide information on teacher certification requirements, salaries, areas in which teachers are needed, and other pertinent information.

3. Teacher training institutions should consider a program in which enlisted men separating from the service who are prospective vocational or technical teachers could meet certification requirements within a one to two year period.

Further study should be conducted with those men separating from the service who: (a) are over 24 years of age; (b) have education beyond the 12th grade; (c) have completed over three years of duty, and (d) are in Rank Group IV and V. The numbers of men within these groups were fairly small, but they expressed a higher degree of interest in teaching. An in-depth study of these men would provide more information on their potential as future teachers.

TOPIC FOUR: Other Studies

See Bibliography for information on availability of complete studies

Professional Personnel in State Divisions of Vocational Education: Policies, Practices and Requirements. Dick C. Rice. The Ohio State University, Columbus. November 1968.

This is a publication directed to leaders in vocational education on vocational division vocational division policies, practices and requirements that Rice believes will provide additional insights and data of use to state boards of vocational and technical education and to state administrative personnel in improving those situational factors within the department work climate which contribute to attracting and retaining high level personnel. The study had four major objectives:

1. To determine the existence and content of professional personnel policies and their effects on the operation of state divisions of vocational education.

2. To identify the training and experience qualifications of present state division professional staff members.

3. To ascertain training and experience needs of state division personnel.

4. To project the number of professional personnel needed in state divisions of vocational education through 1970.

Data were collected through the use of a five-part questionnaire which was developed and then used in interviews with head state supervisors and directors in state divisions of vocational education.

The majority of state directors viewed the practices followed in their states as adequate for attracting and retaining the number and quality of professional personnel needed. However, they viewed the problem of losing qualified professional personnel as becoming more serious. In this connection, they listed several strategies as being successful in retaining such personnel: salary increase, opportunities for further education, promotions, boosting morale, enhanced status such as a larger office, additional clerical help, and a change of assignment. Although salary changes were ranked first, it was found that division salaries are competitive with public school salaries, and thus the other factors have to be considered.

The importance of academic study was noted, as well as the experience gained in practical, on-the-job experience. The sources of professional personnel for state divisions of vocational education are (a) the ranks of high school vocational teachers in the state, (b) the related vocational field in the state, and (c) a combination of the two. Rarely are personnel from outside the state utilized.

The eight major recommendations presented by Rice, all having the intent of "providing a stimulus for division leaders to evaluate and strengthen their respective divisions of vocational education," are:

1. That state divisions of vocational education, in conjunction with state agencies of fiscal control, develop salary schedules which will enable them to successfully compete with the public schools, industry, business, and universities.

2. That state divisions of vocational education broaden their recruitment base to include personnel with specialized skills needed to staff newly emerging staff positions in planning, research and administration.

3. That the requirements for work experience in a vocational area be discontinued for state division positions not directly related to the teaching or supervising of vocational and technical programs.

4. That preservice graduate programs be developed to prepare personnel specifically for state division service.

5. That state divisions of vocational education develop professional leave policies which enable staff members to meet advanced study requirements imposed by divisions and to enable staff members to continue professional development throughout their service in the division.

6. That inservice training programs for state division of vocational education personnel rely heavily upon workshops, internships and simulation activities which bring participants into close proximity with actual leadership situations.

7. That evaluation procedures be adopted which utilize a self-evaluatory, professional improvement philosophy.

8. That state divisions of vocational education develop personnel policies which will provide employment security on a legal rather than a discretionary basis.

Profiles of Trade and Technical Leaders: Summary Report 1969. Melvin L. Barlow and Bruce Reinhart. University of California, Los Angeles, and California State Department of Education, Sacramento. 1969.

This research describes trade and technical personnel leadership in terms of expenditure of time, ideas about major issues, factors which are influential, and the manner in which professional advancement is achieved. The funds for this study, conducted at UCLA from 1966 to 1968, were provided by the Bureau of Industrial Education, California State Department of Education.

The leaders included in the study were educators with trade and technical education backgrounds, general education, industrial arts and other vocational area backgrounds. They are coordinators, directors, supervisors, deans, consultants, etc., whose names were supplied by the Bureau of Industrial Education and the Department of Correction. Two hundred and eighty-six of them filled out the Basic Description Questionnaire (BEQ) which provided information about their characteristics and indicated relationships of numerous variables.

These persons were then asked to fill out Work Analysis Forms (WAF) to provide a modified form of job analysis i.e., using estimates of time spent on different kinds of work to identify various aspects of administrative performance. Two hundred and twenty-four, or 79 percent, filled out these forms. All of the subjects were asked to rate suggestions for the solution of 15 major issues (previously identified by professional personnel in vocational education) in order of their importance. The ratings were performed by 239 on this Major Issues Questionnaire (MIQ).

The results of the research are presented in easily interpreted graphic form, as well as in concise summaries at the end of each section. For example, the results of the Basic Description Questionnaire (BDQ) indicate that the following are accurate descriptors of trade and technical leaders in California.

—More than 8 out of 10 (84.96 percent) spend 100 percent of their time in coordination, supervision and/or administration.

—Trade and technical educators invest large amounts of energy in formal education while employed in education.

—Younger administrators are entering vocational education with more education than their older colleagues and they are working toward more degrees.

Results of the Work Analysis Forms (WAF) indicate that leaders of trade and technical education in California spend the largest amounts of time "attending meetings and conferences, consulting with subordinates and consulting with "other persons."

In the Major Issues Questionnaire (MIQ), each leader was asked to rate 10 solutions for each issue. For example, one issue was, "How can vocational education achieve the status and prestige it needs to perform its proper role?" The preferred solution was, "Orient counselors to the values of vocational education for students."

The other major issues which were included are listed below.

How can the federal government be more effective in vocational education?

How can vocational education be brought into the mainstream of educatinn?

How can the shortage of qualified teachers be resolved?

How can the relationships between vocational and academic teachers be improved?

How can the relationships between vocational and academic leaders be improved?

How can we provide credit for student learning regardless of how or where it is achieved?

What kinds of institutions should offer vocational education?

How can we provide diversity and comprehensiveness in vocational education?

How can we improve vocational guidance?

How can we better respond to the challenge of the new technology?

How can vocational education respond to poverty problems?

How can we improve continuing occupational education?

How can we prepare craftsmen and technicians to teach?

How should we provide for the inservice training of trade and technical teachers?

Staffing. Harland E. Samson, University of Wisconsin, Madison. Pages 405-416, "Review of Educational Research," October 1968. American Educational Research Association, Washington, D.C.

In this chapter of the issue of *Review of Educational Research*, devoted to vocational, technical, and practical arts education, Samson presents a discussion of research related to staffing which has been conducted since 1962. He notes that, although several studies have been conducted during this period, there has been small contribution to improving the development of the science of teacher education. He states that the current research is characterized by "its ability to describe rather than to account for various concerns of staffing."

In this discussion staffing is treated under the following major headings: supply and demand, recruitment, characteristics and competencies, preparation, and innovations and trends. Sixty-eight major studies have been included in this review, some of which are noted below.

Edward A. Podesta reported on his work in obtaining an inventory of potential instructors in "Supply and Demand Factors Affecting Vocational Education Planning. A Methodological Study in Santa Clara County, California," Menlo Park, Calif. Stanford Research Institute, 1966; 153 pages.

William P. Spence reported on recruiting practices in his study, "Recruiting Methods Industrial Arts Uses," *Industrial Arts and Vocational Education/Technical Education* 56:48-51; June 1967.

In an attempt to identify the requisite competencies for instructors, Gerald Ross Fuller investigated interest, personality and attitude factors in his study "The Relationship of Characteristics of Prospective Student Teachers and Student Teaching Effectiveness in Agricultural Education." Doctor's thesis; Ithaca, N. Y., Cornell University, 1963; 411 pages.

Harry S. Broudy stated that teacher education should include "segments of a foundational dimension, general theory and specialized technology" in his study "Criteria for the Professional Preparation of Teachers," *Journal of Teacher Education* 16: 408-15; December 1965.

Change in the teaching environment was evidenced in the study by Nicholas C. Polos, "The Dynamics of Team Teaching"; Dubuque, Iowa, William C. Brown Co., 1967; 152 pages.

Samson concluded his remarks with the following recommendations for future research:

1. Determination of the selective shortages of vocational and technical staff.
2. Examination of supply and demand of staff in the context of the social, philosophical and political aspirations of our society.
3. Testing of antecedent conditions to teaching and consequent status changes.
4. Determination of the characteristics that are significant predictors of success and persistence in different subject areas and levels.
5. Evaluation of the influence of various staff utilization plans and curricular innovations on teacher preparation.
6. Examination of preparation requirements of new staff, including occupational experience, subject matter knowledge, and competence in educational technology.
7. Assessment of the nature of the assignment of staff and needs for inservice education.

Competencies of Vocational Plant Facilities Specialists. John L. Peterman, The Pennsylvania State University. September 1968. 170 pages.

The specific objectives of this study were to develop (a) criteria for the selection of a vocational plant facilities specialist; (b) criteria for the selection of assistants to a vocational plant facilities specialist; (c) instruments which would be useful in the selection process, and (d) a selected bibliography of informative literature useful to those responsible for planning, implementing and evaluating vocational plant facilities.

Initially, Peterman developed a list of factors considered to be important in developing criteria and instruments for the selection of a plant facilities specialist and assistant. This list was based on information obtained from a review of the literature, and from interviews with experienced vocational educators, interested private corporations, and interested state-level personnel. This list was divided into two parts—one for the specialist and one for the assistant.

A questionnaire to provide validity information on the two lists was submitted to a jury of experts, after which the factors were identified as instrument items. A second questionnaire was then submitted to all the vocational administrators, full-time teachers and part-time trade and industrial teachers in the central region of Pennsylvania. Item weights of responses on this questionnaire were then tabulated and computed. The analysis of the data thus collected gave Peterman information on (a) validity of the instruments, (b) reliability of the instruments, and (c) appropriateness of the included items for use as criteria for the selection of plant facilities specialists and assistants.

The necessary competencies constitute a description of the role of a specialist or assistant, and they also provide a basis for evaluating vocational teacher education curriculum for the preparation of a plant facilities specialist and/or assistant. Peterman feels that teachers can use this list of competencies as a checklist to measure progress; the specialist or his assistant can use the list as a basis for choosing personal goals and for self-evaluation. Some sample items are listed below.

Assistant: Should consider all the aspects of safety as an integral part of any program; must understand long-range planning; must be able to use catalogs, take expert advice and order the proper equipment.

Specialist: Must show the leadership abilities needed to secure the active cooperation of community, staff and organizations; would recognize that the planning of facilities has to be accompanied by written educational specifications; Is willing to spend the necessary time and effort to visit and inspect other similar school plants.

Peterman makes the following recommendations for the application of this study to trade and industrial education in the United States:

1. That the criteria developed from this study be used as guides in providing an objective approach to the formulation of state plans incorporating within such plans: (a) establishment of plant facilities specialists and their assistants, and (b) establishment of educational specifications guidelines.
2. That the developed instruments be applied on state and nationwide surveys prior to adoption of such vocational state plans.
3. That further identification of competencies of plant facilities specialists and their assistants can best be accomplished through further study or research of: (a) basic general education, (b) professional education, (c) specialized professional education, (d) specialized-field preparation in school or on the job, and (e) direct experience.
4. That an analysis of inservice development of vocational staff members to determine which competencies can best be developed on the job.
5. That an evaluation of the proficiency of local vocational staff members in relation to the competencies needed by them in planning, implementing and evaluating plant facilities.
6. That an identification of the role of state and local directors and supervisors in improving the competence of vocational educators involved in plant facilities planning, implementation and evaluation be studied.

MAY ISSUE . . . The final issue for this school year will present studies on the topic "Evaluation and Accreditation."

PLAIN TALK

THERE'S A WORD FOR IT—"OPPORTUNE." *RV's* editor, as many or most AVA conventioneers who make New Year resolutions, vows to put together the many loose ends which hang over from the big annual meeting. It is more than a paradox—it is uncanny—that events, conditions and activities in research and research reporting converge in "Plain Talk" for this issue. To escape the sensational, let's call it *opportune.*

Research Meetings at Dallas, 1968. *Research Visibility* cannot and probably will not have the space and time to consolidate the many research reports which contributed to the highly successful meetings in Texas. Perhaps some medium can be found for a summary of this nature. Of prime *organizational* importance, particularly in recognition of the *new convention format for Boston 1969,* the vocational research community should energize its communications for the future impact of (a) the new AVA *Department* of Research and Evaluation, (b) the American Vocational Education Research Association, (c) research implications for the reconstituted AVA *Divisions*, and the (d) continued leadership impact of the AVA Research Committee, now dissolved.

Forgetting, if one can, the importance of the new convention format, it is critical to have organized the total, continuing research effort over the long haul of the calendar year. If that fact is not sufficient challenge, consider the problem of the coordination of the importance of research to *all* of the other *AVA Departments* (adult, secondary, post-secondary, teacher education, administration-supervision, a related and special programs).

Obviously, an impact of these dimensions must be focused also in the AVA Divisions. Inasmuch as Policy Committees of the Divisions and Planning Committees of the Departments come together in the spring of 1969, time's awastin'—and it's opportune. To clarify and communicate, *RV* will attempt to secure and consolidate in "Plain Talk" next month important organizational information for the interested readership.

Planned Action on Appropriations Is Opportune. Very highly related to communication and organization for research effectiveness is the problem of taking action to overcome the lag between authorizations and appropriations. Momentarily, the Federal, Budget for fiscal 1970 for research is hardly a token. The *AVA Washington Letter* puts it this way. "Research efforts of the past seem to be "out the window." Only a meager amount of $1.1 million to the states is budgeted. The budget does not even conform to P.L. 90-576 which calls for an amount of 10 percent of funds appropriated under Part B of the Act." Obviously this situation will not be corrected by complacency and trust in the federal planners; individual and concerted action must be taken immediately with members of Congress whose enthusiasm and endorsement of the new VEA '68 should be taken in account by budget planners. After all, Congress authorized $56.5 million for research purposes!

Similar emasculation is seen in the budget for teacher education in the Education Professions Development Act, with $105 million appropriated for *all* of the EPDA, in fact for Part F of the EPDA (Title II of VEA '68) there is an appropriation of *zero.* Unless this condition is corrected, the only access of vocational education to EPDA will be through Parts C and D.

Commendation and a "Tip of the Hat." The conscientious work and continuing successful effort of the AVA Research Committee over the years deserve more than a salute. The Committee over recent years which have been eventful and troublesome has served with great distinction and accomplishment. With the assimilation of the Committee into the new AVA Department of Research and Evaluation, congratulations are especially in order for Chairmen Rupert N. Evans and Jerome Moss, Jr., of the University of Illinois and University of Minnesota, respectively. Hopefully, all members of the Committee will continue their leadership and support through the new department and other organizations.

A capstone and "grand finale" of the Research Committee was the construction and presentation of a research policy framework to the AVA Board of Directors. This statement has been approved by the Board, and should have strong consideration for a take-off for the Department of Research and Evaluation in the near future.

Professional Personnel—The Avalanche of Literature—The Bulge of Winter Meetings. In keeping with at least the spirit of this issue of *RV*, the preparation of professional personnel, publications and events too numerous to digest in available space suggest that special attention be focused on *RV's* Bibliography this month. This invitation is sharpened in terms of both research and the development of professional personnel.

In addition to the professional literature, planners have been active in formulating national and regional conferences and clinics for all aspects of the new provisions of VEA '68 and their understanding and application. Inasmuch as these meetings are specifically designed for the implementation of new guidelines and regulations of the new legislation, it is incumbent that the professional vocational community participate and exert great input. OE Division of Vocational and Technical Education staff has given impetus to the national conferences in cooperation with selected universities and consultants.

It would be a classic understatement of the year to assert that the events of the next several months are critical to the development of vocational and technical education for the years ahead. It may also be another understatement to assume that the vocational education profession will be vigorously invited to assist in the shape of things to come unless it learns from lessons of the past and aggressively asserts itself at all stages and levels of this developmental process.

BIBLIOGRAPHY (For ordering information, see "Document Sources" listed on the next page.)

TOPIC ONE: Seminars and Workshops

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CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC*, a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402; the catalog number is FS 5.212.12037; price: 20 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.